National Weather Service
Kansas City/Pleasant Hill, Missouri

MEDIA ADVISORY 03-010

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FOR IMMEDIATE RELEASE
November 13th, 2003

WINTER WEATHER AWARENESS DAY SET FOR NOVEMBER 19TH, 2003

The National Weather Service, in cooperation with the Kansas Emergency Management Agency (KEM), the Missouri State Emergency Management Agency (SEMA), as well as local county and community emergency managers, has declared **Winter Weather Awareness Day** on Wednesday, November 19, 2003. The day is set aside annually to prepare for the cold and snowy season, and to review winter weather information and safety rules.

Winter weather situations are sometimes overlooked and can catch you unprepared. In the last 10 years, 38 deaths and 98 injuries have been caused by winter storms, most attributed to traffic accidents. In late January 2002, one of the worst ice storms in recent history crippled eastern Kansas and much of west central Missouri. Many trees, power lines and even some buildings snapped from the tremendous weight of ice. An estimated 300,000 customers lost power with electrical service not returning in some areas for weeks. Damage and other losses were put at around $130 million.

What winter weather preparations are being made in your local area? What are the appropriate steps to take that will ensure your winter weather safety? To help answer questions such as these, your National Weather Service office in Pleasant Hill has enclosed a variety of winter weather related information. Please use this information as necessary in articles, newscasts, presentations and features. We encourage you to copy and distribute the material, as necessary. Additional and more in-depth information is also available on our Internet home page at: **http://www.crh.noaa.gov/eax.**

If you would like an interview in support of Winter Weather Awareness Day, please contact Mike Hudson, Warning Coordination Meteorologist, at (816)540-6125.

WINTER PREPARATION

Driving during winter weather

One of the leading causes of death and injuries during winter storms is **traffic accidents**. Driving in winter weather takes extra skill, time and caution. Vehicle and road capabilities are greatly reduced and call for constant driving awareness and attention. Here are some winter driving recommendations from **The American Red Cross** which could save your life.

1) Have your car(s) winterized before the winter storm season.
Keeping your car(s) in good condition will decrease your chance of being stranded in cold weather. Check, and repair as necessary, your battery, antifreeze, wipers and windshield washer fluid, lights, heater, defroster, and tires.

2) If you have a cell phone or two-way radio available for your use, keep the battery charged and keep it with you whenever traveling in winter weather.

3) Keep a windshield scraper and small broom in your car for ice and snow removal.

4) Put together a disaster supplies kit for the trunk of each car used by members of your household.
The kit at a minimum should include blankets, extra clothing, non-perishable food and water, flashlight, first aid kit and a bright piece of cloth for outside notification and identification. Keep your car's gas tank full for emergency use and to keep the fuel line from freezing.

5) Plan long trips carefully.
Listen to weather radio, local radio/TV or call the state transportation department for the latest road conditions. Plan to travel during daylight and, if possible, take at least one other person. Let someone know your destination, your route, and when you expect to arrive. Be aware of sleet, freezing rain, freezing drizzle, and dense fog, which can make driving very hazardous.

Road conditions: area road conditions are available 24 hours a day at the following telephone numbers or Internet web sites:

Kansas: (800)585-7623 or on-line at **www.kanroad.org**
Turnpike conditions: (785)266-4135

Missouri: (800)222-6400
Iowa: (800)288-1047
Nebraska: (402)471-4533

Outdoor winter weather safety and winter weather terms

Wind Chill
Wind chill is not the actual temperature, but rather how wind and cold feel on exposed skin. As the wind increases, heat is carried away from the body at an accelerated rate, driving down the body temperature. Animals are also affected by wind chill; however cars, plants and other objects are not.

Frostbite
Frostbite is damage to the body tissue caused by extreme cold. A wind chill of -20° Fahrenheit (F) will cause frostbite in just 30 minutes. Frostbite causes a loss of feeling and a white or pale appearance in extremities, such as fingers, toes, ear lobes or the tip of the nose. If symptoms are detected, get medical help immediately! If you must wait for help, slowly re-warm affected areas. However, if the person is also showing signs of hypothermia, warm the body core before the extremities.

Hypothermia
Hypothermia is a condition brought on when the body temperature drops to less than 95°F. It can kill. For those who survive, there are likely to be lasting kidney, liver, and pancreas problems. Warning signs include uncontrollable shivering, memory loss, disorientation, incoherence, slurred speech, drowsiness, and apparent exhaustion. Take the person's temperature. If below 95°F, seek medical care immediately!

Outdoor Activities
If you will be outside during storms or extreme cold, dress in layered clothing and avoid overexertion. Use caution when shoveling snow. Shoveling is very hard work and may increase the risk for heart attack.

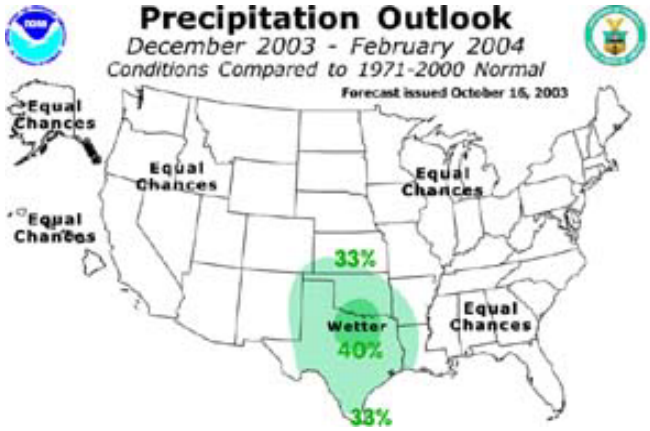
Home Safety
Heating fires are a major cause of residential fires. Turn off portable heating devices when you are away from home or retire for the evening. Have your fireplace and chimney professionally inspected before winter.

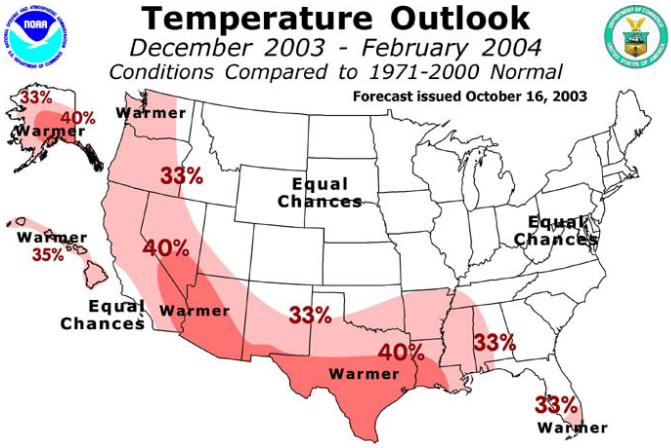
Carbon monoxide is most likely to accumulate inside homes during winter. Check your heating systems and ensure your home has proper ventilation. Install a UL listed carbon monoxide detector that sounds an alarm.

WHAT IS THE WINTER GOING TO BE LIKE?

One of the most common questions as we approach this time of the year, everyone has an interest in what is expected weather-wise for our area in the next 3-4 months. Long range forecasting remains both tricky and uncertain.

This winter season, it is best to anticipate **an average of wide variety of conditions to** occur. Unlike the last several years, this upcoming winter is not expected to be influenced by an El Niño, which is warming of the Pacific Ocean waters, nor a La Niña, which is abnormal cooling of the Pacific Ocean. These two features affect the weather by shifting jet streams, storm tracks and moisture patterns, which eventually influence weather in most areas around the world. Although weak El Niño conditions may form early this winter, they would only have minimal if any impact. Therefore, the winter of 2003-2004 is expected to average **"near normal"** across eastern Kansas and northern Missouri.





Winter Outlook map available at
http://www.noaanews.noaa.gov/stories2003/s2100.htm

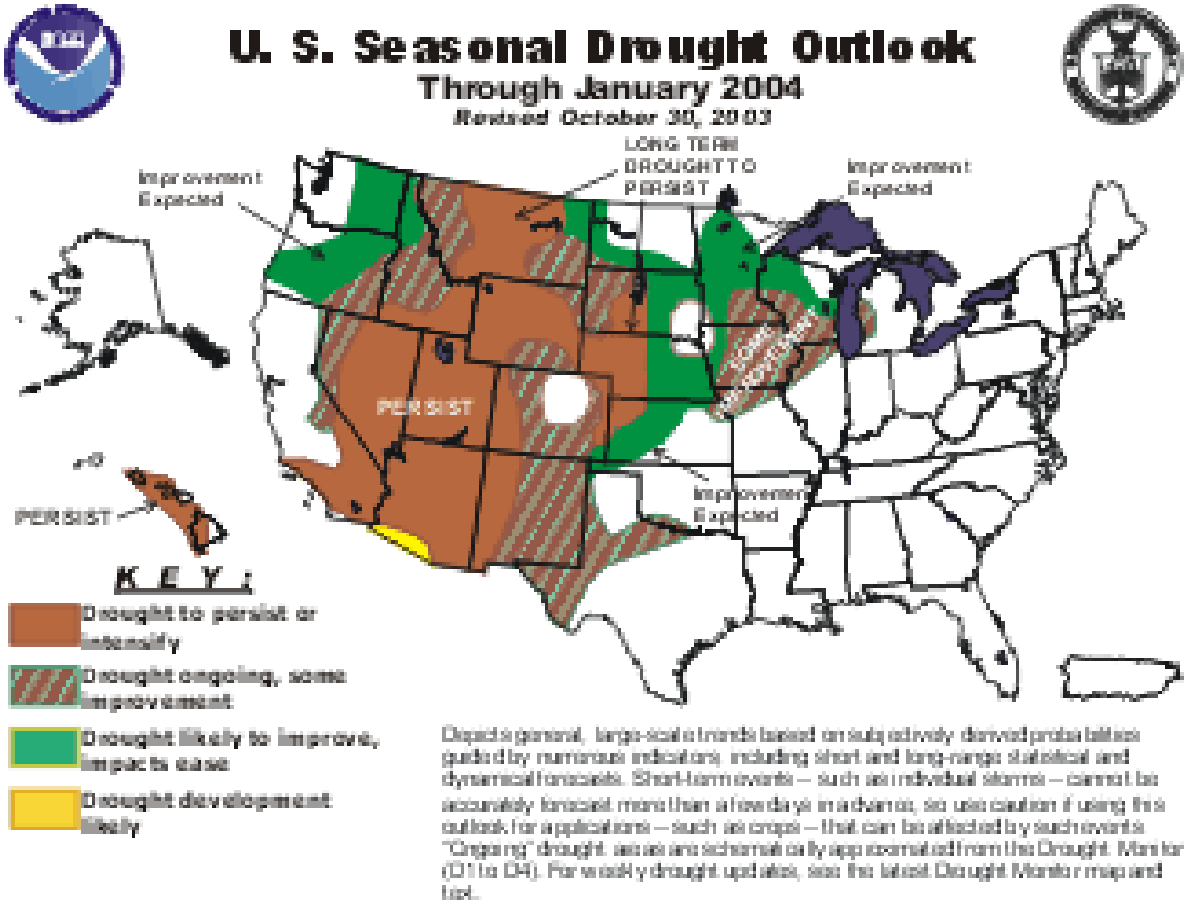
Here are the winter “normals” for some locations across the region.

	Kansas City		St. Joseph		Kirksville	
	High	**Low**	**High**	**Low**	**High**	**Low**
Dec. 1st	45	27	45	27	44	25
Dec. 31st	36	18	35	16	36	19
Avg. snow:	4.3”		3.1”		4.6”	
Jan. 15th	35	17	34	16	35	17
Jan. 31st	38	19	38	16	35	16
Avg. snow:	5.3”		4.3”		6.0”	
Feb. 1st	38	19	38	16	35	16
Feb. 29th	48	28	48	25	46	25
Avg. snow:	5.2”		3.1”		4.6”	
Mar 1st	49	28	48	26	46	25
Mar. 31st	60	38	60	38	58	36
Avg. snow:	3.8”		2.0”		3.7”	

	Maryville		Chillicothe		Sedalia	
	High	**Low**	**High**	**Low**	**High**	**Low**
Dec. 1st	43	23	45	27	45	27
Dec. 31st	35	15	36	19	35	16
Avg. snow:	4.4”		4.2”		3.1”	
Jan. 15th	34	14	36	16	34	16
Jan. 31st	34	13	38	18	38	16
Avg. snow:	5.9”		5.2”		4.3”	
Feb. 1st	34	13	37	18	38	16
Feb. 29th	44	22	47	27	48	25
Avg. snow:	4.1”		3.5”		3.1”	
Mar 1st	44	22	47	27	48	26
Mar. 31st	57	34	58	37	60	38
Avg. snow:	3.5”		2.1”		2.0”	

DROUGHT CONDITIONS PERSIST

Long term drought conditions continue to plague parts of the region, especially in the far northern areas of Missouri. The map below depicts the current official drought outlook as developed by the National Weather Service Climate Prediction Center (CPC) for the winter.



Some improvement is anticipated in the long-term drought conditions across far northern Missouri this winter.

WINTER WEATHER INFORMATION ISSUED BY THE NATIONAL WEATHER SERVICE

The National Weather Service in Kansas City issues the following winter weather bulletins when conditions warrant, for its forecast area of 37 counties in Missouri, and seven adjacent counties in northeast Kansas.

Winter Storm Watch - Severe winter conditions are possible 12 to 48 hours from watch issuance.

Winter Storm Warning - Issued when winter weather precipitation events are expected that could cause death, injury or significant property damage.

A Winter Storm Warning is issued for the following events:
- 6 inches or more of snow in a 12 hour period
- 8 inches or more of snow in a 24 hour period
- A mix of freezing and/or frozen precipitation which causes life-threatening conditions (e.g., several inches of snow with freezing rain)

Ice Storm Warning - Issued when damaging accumulations of ice 1/4 inch or greater are expected.

Blizzard Warning - Issued when these criteria are met for a period of 3 hours or longer:

- Sustained wind gusts to 35 mph or higher, and
- Considerable snow and/or blowing snow reducing visibility to 1/4 mile or less

Winter Weather Advisory - Issued for winter weather precipitation events that cause significant inconveniences, but are not considered life-threatening -if-caution is exercised.

T*hese events, when they occur in 12 hours or less, may trigger an advisory:*
- New snow accumulation that causes travel problems, but is less than 6 inches in 12 hours or 8 inches in 24 hours.
- A forecast of 2 to 4 inches of snow is sufficient to trigger a Winter Weather Advisory (depending on the time of year or time of day, as little as 1 to 2 inches in less than 12 hours can warrant an advisory).
- A mix of freezing and/or frozen precipitation not expected to reach ice storm or winter storm warning criteria, but that will lead to significant inconveniences.
- Blowing snow intermittently reducing visibility < ½ mile
- Drifting snow which closes roadways
- Sleet accumulations of ½ inch or more
- Freezing rain or freezing drizzle with accumulations < 1/4 inch

In addition to winter weather precipitation hazards, your National Weather Service also issues bulletins to advise you of strong winds, freezing temperatures and bitterly cold wind chills:

Wind Chill Advisory – issued whenever the Wind Chill Index (WCI) reaches the range of -15 degrees to -24 degrees Fahrenheit, with a forecast wind speed of 10 mph or higher.

Wind Chill Warning – issued whenever the WCI is expected to be -25 degrees Fahrenheit or colder, with a forecast wind speed of 10 mph or higher.

Wind Advisory – issued whenever sustained wind speeds are expected to be at or greater than 30 mph for at least one hour, -or- for any gusts that range from 45 mph to 57 mph.

High Wind Warning – issued whenever sustained wind speeds are expected to be at or greater than 40 mph for at least one hour, -or- for any gusts at or greater than 58 mph.

Frost Advisory – issued for the first occurrence of frost in the fall, and for any expected occurrence of frost in the spring once growing season begins.

Freeze Warning – issued for the first hard freeze in the fall, and for any expected hard freezes in the spring once growing season begins.

Wind Chill Chart

Wind (mph) \ Temperature (°F)	Calm	40	35	30	25	20	15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
5		36	31	25	19	13	7	1	-5	-11	-16	-22	-28	-34	-40	-46	-52	-57	-63
10		34	27	21	15	9	3	-4	-10	-16	-22	-28	-35	-41	-47	-53	-59	-66	-72
15		32	25	19	13	6	0	-7	-13	-19	-26	-32	-39	-45	-51	-58	-64	-71	-77
20		30	24	17	11	4	-2	-9	-15	-22	-29	-35	-42	-48	-55	-61	-68	-74	-81
25		29	23	16	9	3	-4	-11	-17	-24	-31	-37	-44	-51	-58	-64	-71	-78	-84
30		28	22	15	8	1	-5	-12	-19	-26	-33	-39	-46	-53	-60	-67	-73	-80	-87
35		28	21	14	7	0	-7	-14	-21	-27	-34	-41	-48	-55	-62	-69	-76	-82	-89
40		27	20	13	6	-1	-8	-15	-22	-29	-36	-43	-50	-57	-64	-71	-78	-84	-91
45		26	19	12	5	-2	-9	-16	-23	-30	-37	-44	-51	-58	-65	-72	-79	-86	-93
50		26	19	12	4	-3	-10	-17	-24	-31	-38	-45	-52	-60	-67	-74	-81	-88	-95
55		25	18	11	4	-3	-11	-18	-25	-32	-39	-46	-54	-61	-68	-75	-82	-89	-97
60		25	17	10	3	-4	-11	-19	-26	-33	-40	-48	-55	-62	-69	-76	-84	-91	-98

Frostbite Times: 30 minutes | 10 minutes | 5 minutes

$$\text{Wind Chill (°F)} = 35.74 + 0.6215T - 35.75(V^{0.16}) + 0.4275T(V^{0.16})$$

Where, T= Air Temperature (°F) V= Wind Speed (mph)

Effective 11/01/01

WHAT TYPE OF WINTERY WEATHER WILL I GET?

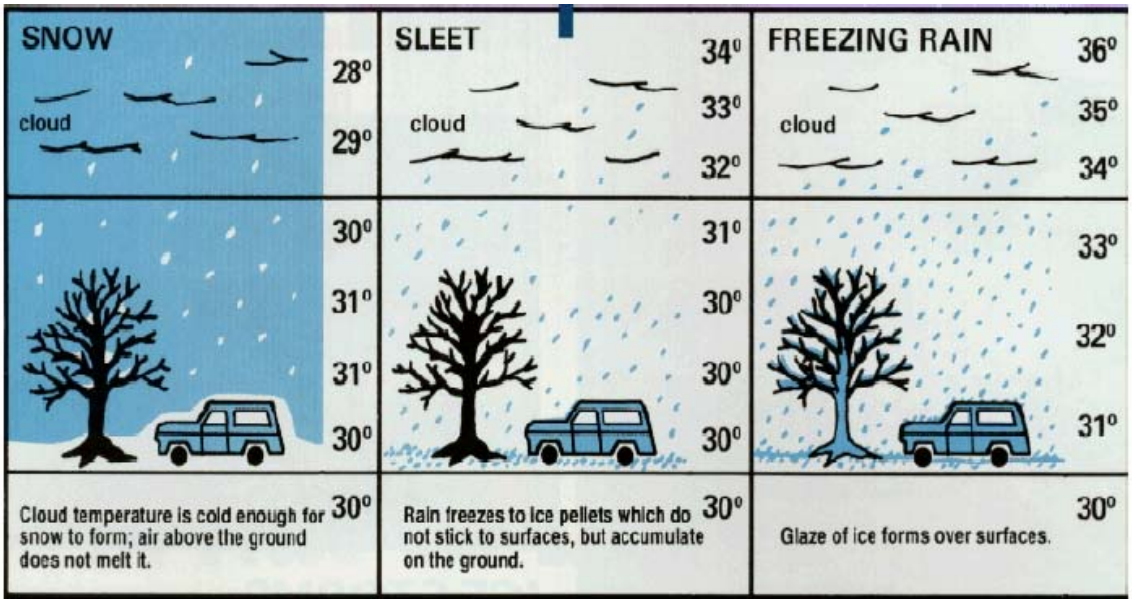
One of the more common questions before a winter storm strikes usually centers on whether your area will receive snow, sleet, freezing rain, or a combination of all three. Meteorologist at the National Weather Service continually investigate atmospheric data and computer model forecasts, to forewarn you of any or all of these hazards.

You might be curious as to why one area may get snow, while another location just a half hour away is receiving freezing rain. The key is in the temperatures within the atmosphere, specifically those between the ground and the clouds aloft. The graphic below illustrates the following explanations of precipitation type.

Snow is produced when temperatures are cold both aloft and at the ground. The snow does not melt as it falls and temperatures at or below 32 degrees near the ground allows it to accumulate.

Sleet is formed when temperatures at or slightly above freezing aloft produce rain that freezes to ice pellets, as it falls into a cold layer of air. Sleet usually bounces when hitting a surface and does not stick to objects. However, it can produce a “sand-like” accumulation like snow.

Freezing rain forms when warm temperatures aloft, generally several degrees above freezing, produces rain that falls onto a surface with temperatures below 32 degrees. This causes the liquid rain to freeze on impact to objects such as trees, power lines, cars and roads forming a coating or glaze of ice. Even a small amount of freezing rain on roads can create a significant travel hazard.



HISTORICAL SNOWFALL AND TEMPERATURE INFORMATION

Kansas City area

Top five snowiest winters ever recorded in Kansas City:

1) 67.0" in 1911-1912
2) 58.5" in 1959-1960
3) 55.0" in 1961-1962
4) 42.4" in 1925-1926
5) 38.6" in 1898-1899

Average winter snowfall: 20.7" Last year's total snowfall: 9.4"

Lowest seasonal snowfall total: 4.5" (1922-1923)

Warmest winter season: 39.0 degrees* 1931-1932
Coldest winter season: 21.5 degrees* 1978-1979
Last year's winter season: 31.4 degrees*

Coldest temperature ever recorded: -23 degrees on Dec. 22 and 23, 1989

St. Joseph area:

Average winter snowfall: 13.7" Last year's total snowfall: 4.9"

Warmest winter season: 36.3 degrees* 1991-1992
Coldest winter season: 19.0 degrees* 1978-1979
Coldest temperature ever recorded: -25 degrees on Jan. 12, 1974

Kirksville area:

Average winter snowfall: 21.9"

Warmest winter season: 36.1 degrees* 1931-1932
Coldest winter season: 18.7 degrees* 1978-1979
Coldest temperature ever recorded: -31 degrees on Feb. 13, 1905

More climate information for the local region is available on-line at www.crh.noaa.gov/eax.

* = average temperature